

The relationship between depression and anxiety levels, and adaptation to the disease in patients with chronic heart failure

Psychiatric disorders and chronic heart failure

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Abstract

Aim: This study aimed to determine the relationship between depression and anxiety levels, and adaptation to disease of patients with chronic heart failure. **Material and Methods:** This descriptive and cross-sectional study was conducted with 192 patients with chronic heart failure between June-October 2021 in Türkiye. Data were collected using the Information Form, the Hospital Anxiety and Depression Scale and the Adaptation to Chronic Illness Scale. **Results:** The mean age of patients was 66.74±12.95. The mean of the Hospital Anxiety and Depression Scale and Adaptation to Chronic Illness Scale scores of patients were found as 10.55±4.41 (0-21), 11.13±4.03 (0-21) and 72.42±12.15 (25-125), respectively. A statistically significant negative relationship was determined between Hospital Anxiety and Depression Scale, and Adaptation to Chronic Illness Scale scores. **Discussion:** According to the results of the study, increasing the patients' level of adaptation to the illness can reduce their anxiety and depression levels. For this reason, it is recommended that professionals enhance their ability to help chronic heart patients adapt to their illness in order to increase the psychological well-being of such patients.

Keywords

Chronic Disease, Heart Failure, Depression, Anxiety, Adaptation to Chronic Illness

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Introduction

Adaptation to the disease can be defined as the patient's choosing to apply the treatment recommended by the doctor and the care plan created by the nurse [1-3]. The process of adaptation to the disease may vary according to the patient's physical, psychological, and socio-cultural characteristics, personality structure, lifestyle, duration of treatment and social support received [1, 3, 4]. In heart failure patients; long-term treatment, frequent hospitalizations, and patients' quality of life affect adaptation to the disease. At the same time, adaptation to the disease also affects these processes [5]. It was determined that the patients' adaptation to the treatment and care reduced their repeated hospitalizations [6, 7]. Personal preparation for treatments and care, explaining them in detail to the patient, and including the patient in this process increase the patient's adaptation. In patients with heart failure, it is observed that the patient does not have sufficient information about the treatment, the treatment continues for a long time, there is little or no social support, and adaptation with the treatment doesn't occur with advancing age [5-8].

Heart failure patients may develop symptoms of burnout, anxiety and depression. This causes difficulties in managing and maintaining the patient's disease. Studies have shown that chronic heart failure patients experience economic difficulties [1, 3, 4, 9, 10], death anxiety is intense [11], they experience intense anger feelings [12, 13], and their stress levels are high [14]. In addition, it has been determined that the frequency of depression is common in heart failure patients [14, 15]. Also, the socio-economic level, insufficient support of family members, and the chronicity of the disease increase the depression and anxiety levels of the patients, leading to an increase in the cost of treatment [4, 9, 12, 14, 15]. Sensory reactions such as anger due to depression and anxiety, non-adaptation with treatment, closure of communication, sadness, denial, and non-acceptance are common in patients [2, 13-15].

The positive results of treatment and care in chronic diseases are directly related to the adaptation levels of the patients [2-4]. Every individual adapts to the problems in his life to a certain extent. The disease is a condition that disrupts the harmony of the individual [4]. In chronic diseases, the problem of adherence to treatment causes failure in treatment [4, 5, 7]. First of all, it is necessary to recognize psychiatric disorders such as anxiety and depression, which prevent the individual from complying with treatment, and to prepare a treatment plan in this direction [2-4, 12, 14]. With the adaptation with the treatment, the duration of hospitalization decreases, repeated hospitalizations are prevented, the cost of treatment decreases, and the individual's belief in the success of the treatment of the disease increases [1, 3, 4-7, 10].

Depression and anxiety in patients with chronic diseases such as heart failure; negatively affects the patient's adaptation to the disease and quality of life. In addition, it adversely affects the patient's benefit from treatment and symptom control [1, 5, 7, 10, 11]. Evaluating the mental health as well as the physical health of the patient with heart failure and providing holistic care to the patient positively affect the course of the disease as well as reduce the level of depression and anxiety [4, 6, 11, 14]. For this reason, it is important for the patients to adapt to

the disease and to recognize the psychiatric disorders that may affect it by the professionals. In light of this information, the aim of this study was to determine the relationship between depression and anxiety levels of patients with chronic heart failure and their adaptation to the disease.

Material and Methods

This descriptive and cross-sectional study was conducted with patients followed up with a diagnosis of chronic heart failure in the Cardiology Clinic of a Training and Research Hospital in Türkiye. At least 192 patients were required for the sample, with 95% confidence interval, 5% error, 0.5 effect size, and 80% power analysis to represent the population. The study was conducted in 192 patients between June and October 2021. The patients participating in the study did not have any language problems or a psychiatric diagnosis. The patient's communication problem and psychiatric status were determined both by examining the patient file and by the evaluation of the responsible doctor and nurse. Data were collected by the researcher face to face. It took approximately 30 minutes for each participant to complete the questionnaires.

Instruments

Data were collected using the Information Form, the Hospital Anxiety and Depression Scale and the Adaptation to Chronic Illness Scale.

- Information Form: It included questions about the personal and the disease of the patients.

- Hospital Anxiety and Depression Scale (HAD): It was developed by Zigmond and Snaith in order to evaluate the emotional state of patients [16]. Its Turkish validity and reliability were tested by Aydemir et al. [17]. This scale, which measures anxiety and depression levels, is a 4-point Likert scale (lowest 0, highest 3). 7 items are associated with anxiety and 7 items are associated with depression. The total score for anxiety and depression ranges from 0 to 21. A high score indicates a high level of depression and anxiety. The cut-off point in the scale was determined as 10 for anxiety and 7 for depression [17]. In this study, the Cronbach Alpha were determined as 0.91 and 0.83.

-Adaptation to Chronic Illness Scale (ACIS): The scale was developed by Atik and Karatepe in order to determine the level of adaptation to disease of individuals with chronic diseases [2]. The scale is a five-point Likert type and has a total of 25 items (1: disagree, 5: totally agree). It was 3 sub-dimensions. These are "Physical Adaptation (11 items)", "Social Adaptation (7 items)" and "Psychological Adjustment (7 items)". High scores showed that patients' adaptation to chronic diseases is high. 8 items in the scale were reverse coded. In this study, the total Cronbach Alpha of the scale was 0.88; Cronbach's Alpha of the sub-dimensions was determined as 0.73, 0.66 and 0.74, respectively.

Statistical analysis

SPSS 21.0 (IBM SPSS Statistics for Windows, Version 21.0. Armonk, NY: IBM Corp.) was used in the analysis of the data. Kolmogorov-Smirnov Z test was applied to determine whether the scale scores fit the normal distribution. Spearman's Rho correlation test was used in the analysis of the relationship between the scores between the scales. It was accepted as $p < 0.05$ in the statistical evaluation of the analyses.

Ethical Approval

This study was approved by the Ethics Committee of Okan University (Date: 2021-03-31, No: 135)

Results

The results regarding the personal and disease characteristics

Table 3. Scale Correlations

	1	2	3	4	5	6
1. HAD- Anxiety	1	0.78**	-0.50**	-0.53**	-0.66**	-0.63**
2. HAD- Depression		1	-0.50**	-0.55**	-0.63**	-0.63**
3. Physical Adaptation			1	0.63**	0.66**	0.88**
4. Social Adaptation				1	0.69**	0.86**
5. Psychological Adaptation					1	0.88**
6. ACIS Total						1

Sperman Rho Test * p<0.05 ** p<0.01

Table 1. Personal and Disease Characteristics

		n	%
Gender	Female	64	33.3
	Male	128	66.7
Age (66.74±12.95)	50 years and under	23	12.0
	51-60 years	36	18.8
	61-70 years	54	28.1
	71-80 years	50	26.0
	81 years and older	29	15.1
Marital Status	Married	139	72.4
	Single	53	27.6
Education	Illiterate	17	8.9
	Literate	24	12.5
	Primary school	38	19.8
	Middle school	50	26.0
	High school	51	26.6
	University	12	6.3
Heart Disease Diagnosis Duration (6.10±3.67)	3 years and less	49	25.5
	4-5 years ago	53	27.6
	6-10 years	72	37.5
	11 years and more	18	9.4
Continuous Drug Use	1-2 drugs	52	27.1
	3 and above	140	72.9
Frequency of Admission to the Hospital in the Last 6 Months	One time	44	22.9
	Twice	74	38.5
	Three times	50	26.0
	Four times or more	24	12.5

Table 2. Scales Scores

	n	Points that can be obtained		Points received		X̄	SS	K-S Z
		Min.	Max.	Min.	Max.			
HAD- Anxiety	192	0	21	0.00	21.00	10.55	4.41	0.08*
HAD- Depression	192	0	21	0.00	21.00	11.13	4.03	0.11**
Physical Adaptation	192	11	55	22.00	49.00	35.05	5.10	0.09**
Social Adaptation	192	7	35	7.00	28.00	15.35	4.43	0.11**
Psychological Adaptation	192	7	35	11.00	31.00	22.01	4.08	0.07*
ACIS Total	192	25	125	42.00	107.00	72.42	12.15	0.01*

K-S Z: Kolmogorov-Smirnov * : p<0.05 ** : p<0.01

of 192 patients are given in Table 1. Hospital Anxiety and Depression Scale-Anxiety scores of patients were 10.55±4.41 (10 points and below: n=101, 52.60%; 11 points and above: n=91, 47.40%) and the mean Hospital Anxiety and Depression Scale-Depression scores were 11.13±4.03 (7 points and below: n=25, 13.02%; 8 points and above: n=167, 86.98%). The mean of the Adaptation to Chronic Illness Scale scores of the patients were determined as 72.42±12.15 (Table 2). A negative and significant relationship was determined between the mean the Hospital Anxiety and Depression-Anxiety Scale scores and the Adaptation to Chronic Illness Scale total and physical Adaptation, social Adaptation, and psychological Adaptation sub-scales scores (r=-0.63; r=-0.50; r=-0.53; r=-0.66). In addition, a significant negative relationship was determined between the mean the Hospital Anxiety and Depression-Depression Scale scores and the Adaptation to Chronic Illness Scale total and physical Adaptation, social Adaptation, and psychological Adaptation sub-scales scores (r=-0.63; r=-0.50; r=-0.55; r=-0.63) (Table 3).

Discussion

Chronic heart failure is very common nowadays. Many studies are carried out to prevent this disease. In addition, efforts are made to reduce the difficulties experienced by the patient due to this disease [3]. However, the difficulties experienced by the patients and the burdens caused by the disease are increasing [4-6, 10]. This study was conducted in order to determine the depression and anxiety levels caused by the difficulties experienced by the patients and to reveal the relationship between the patients' adaptation to their diseases. In this study, patients' mean anxiety scores were 10.55±4.41 (10 points and below: n=101, 52.60%; 11 points and above: n=91, 47.40%) and depression scores were 11.13 ±4.03 (7 points and below: n=25, 13.02%; 8 points and above: n=167, 86.98%). These results show that it is important to address depression and anxiety in patients with chronic heart failure. Also, the mean score of the patients on the scale of adaptation to chronic illness was determined as 72.42±12.15 in the study. When the scores that can be obtained from the scale (min:25-max:125) were examined, it was evaluated that the level of adaptation to chronic illness of the patients was moderate. The researchers reported that more than half of heart failure patients experience anxiety, and almost all of them are at risk of depression [14, 15, 18]. In the study in which compliance and management of heart patients were examined, it was determined that the patients experienced adaptation problems and the reasons for these

problems were uncertainty regarding the recommendations and inadequate/ambiguous instructions, difficulties in symptom control, presence of other diseases, and socio-economic factors [3, 5, 9, 10, 19]. The more the daily life of the individuals who suffer from the disease is affected and it hinders their plans for the future, it is a symptom that shows the worsening of the disease. These problems may cause different problems in both psychosocial and medical dimensions in the adaptation efforts of patients with chronic diseases [1-4, 5]. In studies, it has been determined that non-compliance with the disease seen in patients increases hospitalizations and causes a longer stay in the hospital [2, 3, 5, 9, 11]. As a result of all these, it was found that the patients showed more psychiatric symptoms [4, 18]. The researchers reported that depression and anxiety disorders are common in patients with chronic heart diseases, and this negatively affects the quality of life and functional status of patients, negatively affects the survival rate by reducing the level of physical activity, and ultimately reduces the quality of life [1, 3, 10, 18]. Therefore, it is important for patients to adapt to their disease for their mental health. In our study, the fact that most of the patients scored above the depression and anxiety scale cut-off points and their compliance level was moderate shows the relationship between mental health and adjustment in patients with chronic heart failure.

In this study, a negative and significant correlation was found between the patients' Anxiety and Depression scores and the Adaptation to Chronic Illness Scale total score ($p < 0.05$). Adaptation in heart failure affects the prognosis of the disease, quality of life, duration and frequency of hospitalization. Patients need to make continuous efforts to protect and improve their own health [5, 15]. This process often leads to psychiatric symptoms [1, 4, 13]. The fact that patients with chronic heart failure have knowledge about their disease, make changes in their lifestyle according to the effects of the disease, and willingly participate and cooperate in the planned treatment and care contribute to their adaptation to the disease [1, 4, 5-7, 9, 10]. The success of heart failure treatment increases the patient's regular visits to the health institution, regular use of medications, recognizing and following up the symptoms associated with the disease, meeting his daily activities and care needs, and adapting to the disease [6, 7]. Thus, it causes the patient to be less affected by the negative effects of the disease, increase the capacity to cope with problems, and experience less anxiety and depression [4, 15, 18].

Heart disease causes problems in marriage, work life, family life and economics in patients. This disrupts their level of adaptation [4, 7, 9, 10]. One of the most important points in ensuring adaptation is that the individual recognizes his/her own body during the illness, becomes aware of the emotions and thoughts he/she experiences, and recognizes the factors that increase his/her capacity to adapt to the illness [1-3, 7, 19]. The fact that the results of treatment and care in chronic diseases are positive and they are less affected psychologically in this process is directly related to the compliance level of the patients [4, 15]. In chronic diseases, the problem of adherence to treatment causes failure in treatment [5, 6, 20, 21]. First of all, it is necessary to recognize psychiatric disorders such as anxiety and depression, which prevent the individual from

complying with treatment, and to prepare a treatment plan in this direction [3, 4, 21]. With compliance with the treatment, the duration of hospitalization decreases, repeated hospitalizations are prevented, the cost of treatment decreases, and the individual's belief in the success of the treatment of the disease increases [2, 7, 9, 18, 21, 22].

Researchers have stated that adaptation to the disease has effects such as taking responsibility for oneself, being at peace with oneself while doing this, making efforts for one's own well-being, and providing motivation for recovery [6, 10]. Adaptation to the disease actually supports the individual's self-healing feelings and behaviors [2, 3, 7, 21]. As a result, as patients adapt, they may be less affected by their difficulties. Thus, as the result of this study supports, as the level of compliance with the disease increases, the depression and anxiety levels of the patients decrease. In other words, it is important to increase the adaptation of chronic heart failure patients to their diseases in order to reduce the level of depression and anxiety caused by the difficulties they experience. Thus, the individual and societal burden caused by the disease can be reduced.

In reducing the psychiatric disorders experienced by chronic heart patients, increasing their adaptation to their diseases can be easy and economical. Because, as the depression and anxiety levels of the patients increase, they can strain the health system. Patients' quality of life may decrease. For this reason, adaptation to the disease is important in reducing the anxiety and depression levels of patients with chronic heart failure. This study presents a conclusion regarding the psychiatric symptoms experienced by these patients and the benefits of increasing their adaptive capacity in reducing these symptoms. Although the results obtained are important to draw attention to the psychiatric symptoms experienced by these patients, the data obtained from the anxiety and depression scales should be reconsidered by the psychiatrist through individual interviews. Because the results obtained from the determined anxiety and depression score scales are limited to the answers given by the patients and the duration of the questionnaire.

Because the study was conducted with patients in a hospital, the results cannot be generalized to other patients. In addition, other psychiatric disorders of the patients that were not detected during the study could not be controlled. Therefore, physical, psychological and cultural variables that affect the results of this research are limitations.

Conclusions

According to the results of this study, to reduce depression and anxiety in patients with chronic heart failure, it may be recommended to increase their capacity to adapt to the disease.

Scientific Responsibility Statement

The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.

Animal and Human Rights Statement

All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

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Conflict of Interest

The authors declare that there is no conflict of interest.

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